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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,833	12/12/2001	Alan Glen Solheim	16-089	6722

27667 7590 04/19/2005

HAYES, SOLOWAY P.C.
130 W. CUSHING STREET
TUCSON, AZ 85701

EXAMINER	
PAYNE, DAVID C	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,833	SOLHEIM ET AL.	
	Examiner	Art Unit	
	David C. Payne	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-37* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 and 8-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levandovsky et al. US 2002/0063915 (Levandovsky) in view of Dhritiman Banerjee and Biswanath Mukherjee, "A practical Approach for Routing and Wavelength Assignment in Large Wavelength-Routed Optical Networks," IEEE Journal on Selected Areas in Communications, Vol. 14, No. 5, June 1996 (Banerjee).

Re claim 1, 17, 19, 25, 36, 37

Levandovsky disclosed a method of validating a path through a optical switched network by determining a cumulative optical signal to noise ration (SNR) at the output of very element along the path while it is being setup. The path's route is modified if the SNR at the output of any element on the path is outside of a predefined range. The path is validated or admitted into the network if the bit error rate is within a predefined range (¶ 0005-0006). The elements include photonic cross connects (PXCs), OADMs, optical amplifiers and regenerators among other optical devices (¶ 0014). The network includes a path validation unit that checks a proposed path route through a network to determine whether an optical signal through the path may be provided with sufficient quality of service (¶ 0016).

Levandovsky does not disclose assigning wavelengths to the path based on said wavelength performance data. Banerjee disclosed a wavelength assignment (RWA) technique for establishing

wavelength-division-multiplexed (WDM) channels, between nodes. A large RWA problem is partitioned into several smaller subproblems, each of which may be solved independently. P. 903. It would have been obvious to perform the Levandovsky path route selection for each wavelength and to make assignments on the results since optical networks are known to carry multiple signals and therefore able to carry traffic on each wavelength over separate paths for greater network capacity and to therefore solve this problem of path selection for each individual wavelength in the network.

Re claims 2, 4 the modified invention also disclosed using a decision threshold as a determination for inclusion of a path, see Levandovsky (¶ 0030).

Re claims 3, 22 the modified invention also disclosed measurements of quality such as SNR, see Levandovsky (¶ 0032-33, 0025).

Re claim 10, 11, 26, 30, 33 the modified invention which uses SNR and BER as a condition of path establishment is a proxy for class of service, see Levandovsky (¶ 0036).

Re claim 12-16, 32 the modified invention adjusting transmission parameters to items such as power, chirp, dispersion etc., see Levandovsky
(¶ 0050).

Re claims 18, 20, 21, 23, 24 the modified invention is not explicit concerning the use of a database. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the execution of a RWA must tally and keep track of a plurality of data which would be stored in memory and software, see Levandovsky (¶ 0018).

Re claim 27, 28 the modified invention wherein said optical device is an optical amplifier and said further performance data is one or more of span gain/loss, power level and reflections level, see

Levandovsky (¶ 0014). While the modified does not disclose Raman type amplification, it would have been obvious to one of ordinary skill in the art at the time of invention to use Raman amplification, as this is one of the most common types of amplification in optical systems.

Re claims 5, 6, 8, 9, 29, 34, 35 the modified invention is not explicit concerning the reach of a selected wavelength. However, of ordinary skill in the art at the time of invention would know that wavelength reach is a proxy for power reception at a receiver as disclosed, see Levandovsky (¶ 0023), power launch (page 9, BER Estimation Algorithm paragraph)

Allowable Subject Matter

3. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

David C. Payne
Patent Examiner
AU 2633